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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/785,607	02/16/2001	Paul A. Green JR.	SRT-014 (5049/23)	4369

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EXAMINER	
FLEURANTIN, JEAN B	

ART UNIT	PAPER NUMBER
2172	9

DATE MAILED: 04/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/785,607	GREEN ET AL.	
	Examiner	Art Unit	
	Jean B Fleurantin	2172	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *9-24,29 and 30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *29 and 30* is/are allowed.

6)☒ Claim(s) *9-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Claims 9-24, 29 and 30 remain pending for examination.

Response to Applicant' Remarks

2. In response to Applicant'(s) arguments filed on 7 January 2004 with respect to claims 9-24, 29 and 30 have been fully considered but are not persuasive for the following reasons:

In response to applicant's argument on pages 6 and 7, that "to modify ... Long and Schmuck with a POSIX file." The examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In response to applicant's argument on pages 7 and 8, that "Schmuck ... deficiencies in Long." The examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Schmuck teaches the proposed POSIX access control list standard specifies that when a new file or directory is created, (see Schmuck, col. 27, lines 55-65). It would have

been obvious to one ordinary skill in the art at the time the invention was made to modify the combined teachings of Long and Schmuck with a POSIX file. Such modification would allow the teachings of Long and Schmuck to provide a shared disk file system where a file system instance on each machine has identical access to all of the disks coupled to and forming a part in the file system, (see Schmuck, col. 3, lines 27-30).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 9-15 and 17-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat. No. 5,991,763 issued to Long et al. ("hereinafter Long").

As per claims 9 and 17, Long teaches a method for mapping a first file object identifier having a first bit size to a second file object identifier having a second bit size (see col. 8, lines 12-16) comprising the steps:

(a) receiving said first file object identifier associated with a file object (thus, an object file may then be obtained by using either the source code version of the data contained in data files; see col. 1, lines 62-64); and

(c) providing said second file object identifier to facilitate access to said file object (thus, files which are normally accessed during the execution of a computer program include data files,

in order to create object files from data files the data files are usually converted into source code for a higher programming language, converting data files into source code generally also requires a conversion of the source code to assembly language in order for an object file to be obtained from the data file; see col. 4, lines 43-50). Long does not explicitly indicate steps of transforming said first file object identifier into said second file object identifier based on at least one file system characteristic. However, Long indicates associated with converting snapshots of data files into object files, in figure 5 illustrates step 314 of figure 3, in a step 502, a new list of data files is generated, the list of data files used in step 402 of figure 4 is processed to create a new list of data files which includes new file names that are appropriate for a virtual file structure, (see col. 6, lines 53-59). Further, in column 2, lines 42-43, Long teaches a snapshot of the data file is created and converted into an object data file. It would have been obvious to one ordinary skill in the art at the time the invention was made to modify the teachings of Long with transforming said first file object identifier into said second file object identifier based on at least one file system characteristic. Such modification would allow the teachings of Long to provide additional data storage capacity, (see col. 8, lines 49-50).

As per claims 10 and 18, Long teaches the method wherein said file object is one of a file, a directory, and a symbolic link, (see col. 7, lines 56-58).

As per claims 11 and 19, Long teaches the method wherein said second bit size is less than said first bit size, (see col. 4, lines 10-17).

As per claims 12 and 20, Long teaches the method wherein said first file object identifier comprises a disk volume value, a disk block value and a block offset value (thus, our allocation map development provides the ability to allocates storage from the same pool of disks in parallel while maintaining full consistency of the metadata; see col. 3, lines 58-60).

As per claims 13 and 21, Long teaches the method wherein said at least one file system characteristic comprises limiting the number of disks available in any logical volume to a 4 bit value (thus, each object file created in step 508 includes a hole of a size sufficient to accommodate data contained within a snapshot as specified in the data allocation file; see col. 7, lines 33-35).

As per claims 14 and 22, teaches the method wherein said at least one file system characteristic comprises limiting the address granularity within a disk block to at least 32 bytes (thus, we have enhanced token modes for controlling file size, a byte range lock algorithm using a byte range token interface; see col. 4, lines 9-17). Further, in column 16, lines 10-20, Long teaches most importantly the location of the file data on disk "i.e. which disk blocks hold the file data", allocation map that records which disk blocks are currently in use to store metadata and the file data.

As per claims 15 and 23, Long teaches the method wherein said at least one file system characteristic comprises limiting file lengths to at least 128 bytes (thus, we have enhanced token

modes for controlling file size, a byte range lock algorithm using a byte range token interface; see col. 4, lines 9-17).

I. Claims 16 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat. No. 5,991,763 issued to Long et al. ("hereinafter Long") in view of US Pat. No. 5,950,199 issued to Schmuck et al. ("hereinafter Schmuck").

As per claims 16 and 24, Long teaches the claimed subject mater except wherein said second file object identifier is a POSIX file. However, Schmuck teaches the proposed POSIX access control list standard specifies that when a new file or directory is created, (see Schmuck, col. 27, lines 55-65). It would have been obvious to one ordinary skill in the art at the time the invention was made to modify the combined teachings of Long and Schmuck with a POSIX file. Such modification would allow the teachings of Long and Schmuck to provide a shared disk file system where a file system instance on each machine has identical access to all of the disks coupled to and forming a part in the file system, (see Schmuck, col. 3, lines 27-30).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 9-15 and 17-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat. No. 6,542,909 issued to Tamer et al. ("hereinafter Tamer") in view of US Pat. No. 5,832,274 issued to Cutler et al. ("hereinafter Cutler").

As per claims 9 and 17, to Tamer teaches a method for mapping a first file object identifier having a first bit size to a second file object identifier having a second bit size (see col. 3, line 52 to col. 4, line 13) comprising the steps:

(a) receiving said first file object identifier associated with a file object (thus, the identifier file A uniquely identifies the logical object file A in application space; see col. 14, lines 63-65); and

(c) providing said second file object identifier to facilitate access to said file object (thus, when an application program accesses a logical object such as a file, it identifies the object using a logical object identifier; see col. 2, lines 16-23). Tamer does not explicitly disclose steps of transforming said first file object identifier into said second file object identifier based on at least one file system characteristic. However, Cutler discloses steps of translating object name to object identifier, (see Cutler col. 6, lines 41-44). It would have been obvious to one ordinary

skill in the art at the time the invention was made to modify the combined teachings of Tamer and Cutler with steps of transforming said first file object identifier into said second file object identifier based on at least one file system characteristic. Such modification would allow the teachings of Tamer and Cutler to provide a method for transferring a file system and access rights associated with the file system from a first environment to a second environment which stores mapping information, (see Cutler col. 3, lines 21-25).

As per claims 10 and 18, Tamer teaches the method wherein said file object is one of a file, a directory, and a symbolic link, (see figure 1, col. 26, lines 4-8).

As per claims 11 and 19, Tamer teaches the method wherein said second bit size is less than said first bit size, (see figure 3B, col. 4, lines 44-50).

As per claims 12 and 20, Tamer teaches the method wherein said first file object identifier comprises a disk volume value, a disk block value and a block offset value, (see figure 3B, col. 4, lines 50-54).

As per claims 13 and 21, Tamer teaches the method wherein said at least one file system characteristic comprises limiting the number of disks available in any logical volume to a 4 bit value, (see col. 5, lines 38-41).

As per claims 14 and 22, Tamer teaches the method wherein said at least one file system characteristic comprises limiting the address granularity within a disk block to at least 32 bytes, (see col. 5, lines 38-41).

As per claims 15 and 23, Tamer teaches the method wherein said at least one file system characteristic comprises limiting file lengths to at least 128 bytes, (see col. 11, lines 28-64).

II. Claims 16 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat. No. 6,542,909 issued to Tamer et al. ("hereinafter Tamer") in view of US Pat. No. 5,832,274 issued to Cutler et al. ("hereinafter Cutler") as applied to claims 9-15 and 17-23 above, and further in view of US Pat. No. 5,950,199 issued to Schmuck et al. ("hereinafter Schmuck").

As per claims 16 and 24, Tamer and Cutler teach the claimed subject mater except wherein said second file object identifier is a POSIX file. However, Schmuck teaches the proposed POSIX access control list standard specifies that when a new file or directory is created, (see Schmuck col. 27, lines 55-65). It would have been obvious to one ordinary skill in the art at the time the invention was made to modify the teachings of Tamer, Cutler and Schmuck with a POSIX file. Such modification would allow the teachings of Tamer, Cutler and Schmuck to provide a shared disk file system where a file system instance on each machine has identical access to all of the disks coupled to and forming a part in the file system, (see Schmuck col. 3, lines 27-30).

5. The following is an examiner's statement of reasons for allowance:

As per claims 29 and 30, the prior art of record does not teach or suggest in combination of steps as recited in claim 29, wherein combination of steps including in addition to the discussion in claim 9, Long further teaches (d) computing a temporary file object identifier for said located file object; (e) iterating step (d) for file objects in said specified location on the disk until the temporary file object identifier matches said first file object identifier; computing a second file object identifier for said file object with said temporary file object identifier matching said file object identifier.

Prior Art

6. The prior art of record and not relied on upon is considered pertinent to applicant's disclosure: US Pat. No. 6,282,602 relates to data storage systems. US Pat. No. 6,385,626 relates to data storage systems. US Pat. No. 6,658,437 relates to space management systems.

CONTACT INFORMATION

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean B Fleurantin whose telephone number is 703-308-6718. The examiner can normally be reached on 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BREENE JOHN E can be reached on 703-305-9790. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Jean Bolte Fleurantin

April 2, 2004

SHAHID ALAM
PRIMARY EXAMINER